

WHAT IS CLAIMED IS:

1. A shoe sole comprising:
a hollow container made of a gas-impermeable material, said container defining an enclosed space;
a fluid system disposed within said container, said fluid system including at least one compartment within a portion of said enclosed space; and
a fluid disposed within said fluid system, whereby pressure applied to said container causes said fluid to flow within said fluid system.
2. The shoe sole according to claim 1, wherein said fluid is air.
3. The shoe sole according to claim 1, wherein said fluid is nitrogen.
4. The shoe sole according to claim 1, wherein said fluid is a gel.
5. The shoe sole according to claim 1, wherein said fluid is at atmospheric pressure.
6. The shoe sole according to claim 1, wherein said fluid is at a pressure that is greater than atmospheric pressure.
7. The shoe sole according to claim 1, wherein said hollow container is disposed in at least one of a forefoot portion and a heel portion of said sole.
8. The shoe sole according to claim 1, wherein said hollow container includes a top component and a bottom component.
9. The shoe sole according to claim 8 wherein said top component comprises an outer wall and a flat portion.

10. The shoe sole according to claim 9, wherein said outer wall comprises flexible ridges.

11. The shoe sole according to claim 8, wherein said top component and said bottom component are formed as a unitary structure.

12. The shoe sole according to claim 8, wherein said top component forms an exterior wall of said sole.

13. The shoe sole according to claim 8, wherein said bottom component forms an exterior wall of said sole.

14. The shoe sole according to claim 8, wherein said fluid system comprises an interior compartment which is fluidly connected to and encompassed by an exterior compartment.

15. The shoe sole according to claim 14, wherein said top component of said hollow container and said bottom component of said hollow container are welded together along a weld line that defines said interior compartment and said exterior compartment.

16. The shoe sole according to claim 15, wherein said weld line is discontinuous.

17. The shoe sole according to claim 16, wherein an opening in said discontinuous weld line faces a rear lateral portion of said forefoot portion.

18. The shoe sole according to claim 16, wherein an opening in said discontinuous weld line faces a rear lateral portion of said heel portion.

19. The shoe sole according to claim 14, wherein said bottom component comprises a first flat portion disposed in said exterior compartment and a second flat portion disposed in said interior compartment, a rising wall portion from said first flat portion to a weld line, a falling wall portion from said weld line to said second flat portion.

20. The shoe sole according to claim 19, wherein said rising wall and said falling wall are comprised of flexible ridges.

21. The shoe sole according to claim 1, further comprising a core disposed within said enclosed space, wherein said at least one compartment of said fluid system is formed within said core.

22. A shoe sole according to claim 21, wherein said core comprises a single piece of foam.

23. A shoe sole according to claim 22, wherein said fluid system includes multiple compartments fluidly connected to one another.

24. A shoe sole according to claim 21, wherein said core comprises a first piece of foam having a first density and a second piece of foam having a second density.

25. A shoe sole according to claim 24, wherein said fluid system comprises

a first compartment formed within said first piece of foam;
a second compartment formed within said second piece of foam;
a fluid conduit that fluidly connects said first compartment and said second compartment;

a fluid disposed within said fluid system, wherein pressure applied to said container causes said fluid to flow within said fluid system.

26. A shoe sole according to claim 25, wherein said fluid system further includes multiple compartments in said first piece of foam in fluid communication with one another.

27. A shoe sole according to claim 25, wherein said fluid system further includes multiple compartments in said second piece of foam in fluid communication with one another.

28. An article of footwear comprising:
an upper; and
a cushioning sole, said cushioning sole including
a hollow container defining an enclosed space,
a fluid system disposed within said container, said fluid system including at least one compartment within a portion of said enclosed space, and
a fluid disposed within said fluid system, whereby pressure applied to said cushioning sole causes said fluid to flow within said fluid system.

29. The article of footwear according to claim 28, wherein said hollow container includes a top component, a bottom component, and sidewalls.

30. The article of footwear according to claim 29, wherein said sidewalls are ridged.

31. The article of footwear according to claim 29, wherein a weld line joining said top component and said bottom component defines the compartment or compartments.

32. The article of footwear according to claim 29, further comprising a core disposed within said enclosed space.

33. The article of footwear according to claim 32, wherein the core defines the at least one compartment.

34. The article of footwear according to claim 33, comprising multiple compartments disposed in said core, said compartments in fluid communication with one another.

35. A shoe sole comprising:
a hollow container made of a gas-impermeable material, said container defining an enclosed space;
a foam core disposed within said enclosed space;
a fluid system disposed within said foam core, said fluid system including multiple compartments in fluid communication with one another; and
a fluid disposed within said fluid system, whereby pressure applied to said container causes said fluid to flow within said fluid system.